

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

ES Windows, LLC 3550 NW 49th Street MIAMI, FL 33142

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami-Dade County) and/ or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series "ES-8000T" Thermally Broken Aluminum Window Wall System – L.M.I.

APPROVAL DOCUMENT: Drawing No. **W14-38**, series titled "ES-8000T Alum. Window Wall System (L.M.I.)", sheets 1 through 9 of 9, dated 10/01/14, with revision "**B**" dated 06/27/16, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E., bearing the Miami–Dade County Product Control Approval stamp with the Notice of Acceptance number and Approval date by the Miami–Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, **Barranquilla**, **Colombia**, **America Latina**, series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/ or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by Jorge M. Plasencia, P.E.

ES Windows, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

- 1. Manufacturer's die drawings and sections.
- 2. Drawing No. W14-38, series titled "ES-8000T Alum. Window Wall System (L.M.I.)", sheets 1 through 9 of 9, dated 10/01/14, with revision "B" dated 06/27/16, prepared by Al–Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

B. TESTS

- 1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202–94
 - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202–94
 - 3) Water Resistance Test, per FBC, TAS 202–94
 - 4) Large Missile Level Impact Test per FBC, TAS 201–94
 - 5) Cyclic Wind Pressure Loading per FBC, TAS 203–94
 - 6) Drop Load Test, per CPCS 16 CFR 1201 (Cat 11)
 - 7) Safety Performance Test, (class A) per ANSI Z97.1

along with marked-up drawings and installation diagram of a window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-7546**, dated 04/14/15, signed and sealed by Idalmis Ortega, P.E.

C. CALCULATIONS:

- 1. Anchor verification calculations and structural analysis, complying with **FBC 5th Edition (2014)**, prepared by Al-Farooq Corporation, dated 07/13/15 revised on 06/30/16, signed and sealed by Javad Ahmad, P.E.
- 2. Glazing complies with ASTM E1300-09

D. **OUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

- 1. Notice of Acceptance No. **14–0916.10** issued to **Kuraray America**, **Inc.** for their "**Kuraray Butacite**® **PVB Glass Interlayer**" dated 04/25/15, expiring on 12/11/16.
- 2. Notice of Acceptance No. 14–0916.11 issued to Kuraray America, Inc. for their "SentryGlas® (Clear and White) Glass Interlayers" dated 06/25/15, expiring on 07/04/18.
- 3. Bayer MaterialScience, LLC Part No. **Baydur TB 100–30** Thermal Break System complying with ASTM D638 Tensile Strength of 5,700 psi, ASTM D 790 Flexural Modulus of 225 ksi, ASTM D 256 Notched Izod of 1.9 ft.–lb./in., ASTM D 648 Heat Distortion of 178°F @ 66 psi, ASTM D 2240 Hardness Shore D @ 5 sec. of ±78 Durometer, ASTM D 1622 Density of 72 pcf and ¹/₄–inch thickness.

NOA No. 15-0826.26 Expiration Date: Approval Date:

ES Windows, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

E. MATERIAL CERTIFICATIONS (CONTINUED)

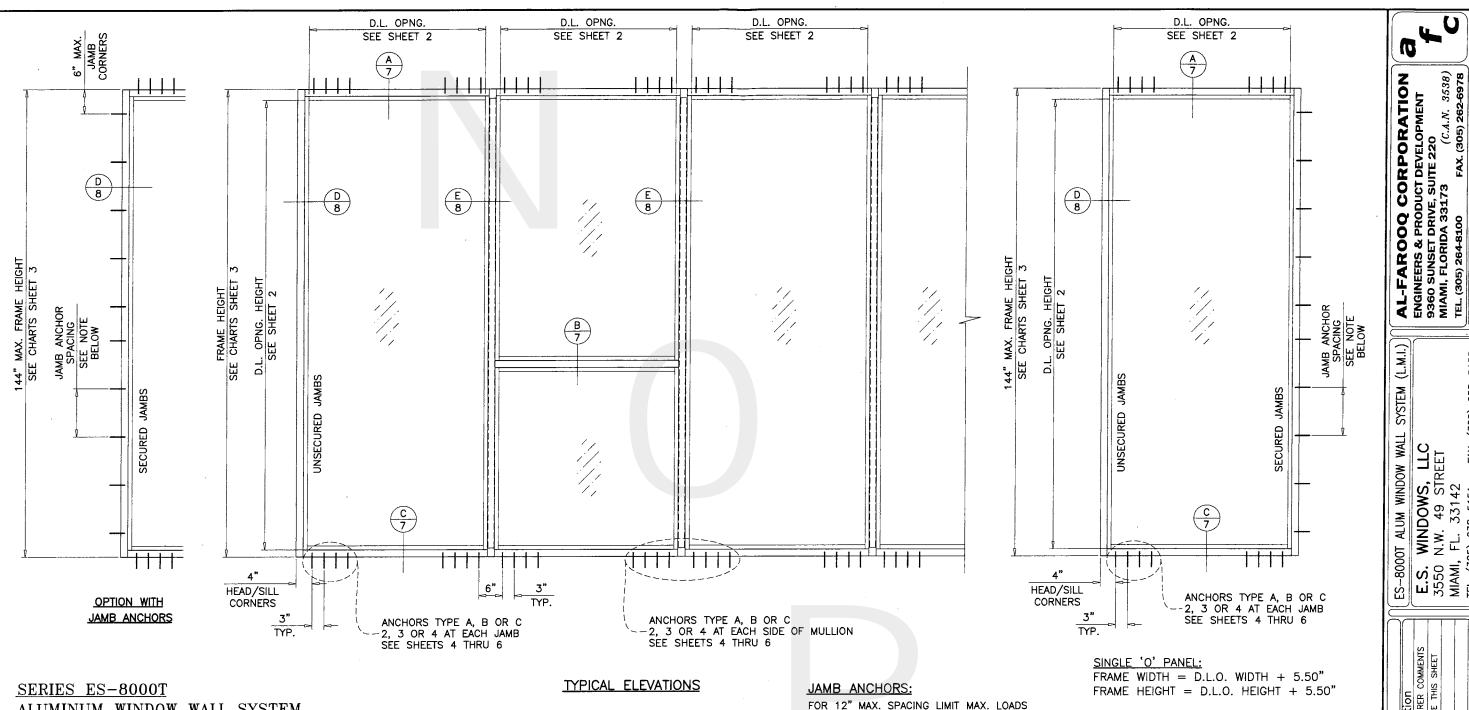
4. 0.375-inch (Length) by 0.26-inch (Height) by 0.0059-inch (Thickness) (9.5x6.6x0.15mm) Aluminum Low Profile Insulated-Glass spacer **Helima AH 956 N** (P/N.: USA K 001 000 000 R7) with Aluminum Alloy **AW-3000** (Ft_u=17 ksi and Ft_v=12ksi) by **He**lmut **Li**nge**ma**nn GmbH & Co., KG.

F. STATEMENTS

- 1. Statement letter of conformance, complying with **FBC** 5th **Edition** (2014), and of no financial interest, dated 07/13/15, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
- 2. Distributor Agreement between ES Windows-Energia Solar, S.A., Barranquilla, Columbia, S.A. and ES Windows, LLC, Miami, Florida, dated 09/12/13, signed by Ms. Adriana Montoya, Manager and Andres Chamorro, General Manager respectively on behalf of the companies.
- 3. Laboratory compliance letters for Test Report No. FTL-7546, dated 04/14/15, issued by Fenestration Testing Laboratory, Inc., signed and sealed by Idalmis Ortega, P.E.
- 4. Proposal issued by Product Control, dated 11/08/13, signed by Jaime D. Gascon, P. E.

G. OTHERS

1. None.



ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT SHUTTERS ARE NOT REQUIRED.

CODE REQUIREMENTS FOR SAFEGUARDS MUST BE OBSERVED.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2014 (5TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2014 FLORIDA BUILDING CODE & ADOPTED STANDARDS.

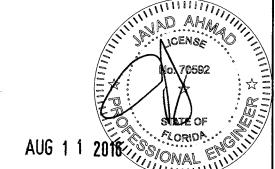
FOR 12" MAX. SPACING LIMIT MAX. LOADS TO 80.0 PSF FOR ANCHOR TYPES 'A' & 'B' TO 74.0 PSF FOR ANCHOR TYPE 'C' FOR LOADS HIGHER THAN SHOWN ABOVE LIMIT ANCHOR SPACING TO 6" MAX.

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

- STEP 1 DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2 SEE CHARTS ON SHEET 2 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
- CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEET 3. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4 USING CHART ON SHEETS 4 THRU 6 SELECT ANCHOR OPTION WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5 THE LOWEST VALUE RESULTING FROM STEPS 2, 3, AND 4 SHALL APPLY TO ENTIRE SYSTEM.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.



1		•iL_		
	date: 10-01-14	scale: 1/2"=1'-0"	dr. by: HAMID	chk. by:
/	(

by description
REV. PER RER CO

(L.M.I.)

SYSTEM

S. WINDOWS, LLC 50 N.W. 49 STREET NMI, FL. 33142 (305) 638–5151 FAX. (

E.S. 3550 MIAMI, TEL. (30

drawing no. W14 - 38

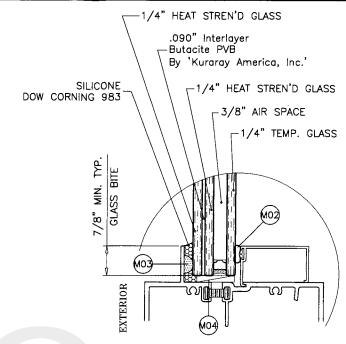
sheet 1 of 9

GLASS 1	LOAD CAPACI	TY - PS	SF
		GLASS	TYPES
NOMINA	L DIMS.	'GL1'/	'GL1R'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
26-1/4"		60.0	70.0
32-1/4"		60.0	70.0
38-1/4"	105-1/2"	60.0	70.0
441/4"	105-1/2	60.0	70.0
50-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"		60.0	70.0
32-1/4"		60.0	70.0
38-1/4"	108-1/2"	60.0	70.0
44-1/4"	100-1/2	60.0	70.0
50-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"		60.0	70.0
32-1/4"		60.0	70.0
38-1/4"	114-1/2"	60.0	70.0
44-1/4"	114-1/2	60.0	70.0
50-1/4"		60.0	70.0
26-1/4"		60.0	70.0
32-1/4"		60.0	70.0
38-1/4"	120-1/2"	60.0	70.0
44-1/4"		60.0	70.0
50-1/4"		60.0	70.0
26-1/4"		60.0	70.0
32-1/4"		60.0	70.0
38-1/4"	126-1/2"	60.0	70.0
44-1/4"		60.0	70.0
48-1/4"		60.0	70.0
26-1/4"		60.0	70.0
32-1/4"		60.0	70.0
38-1/4"	132-1/2"	60.0	70.0
44-1/4"		60.0	70.0
46-1/4"		60.0	70.0
26-1/4"		60.0	70.0
32-1/4"	138-1/2"	60.0	70.0
38-1/4"		60.0	70.0

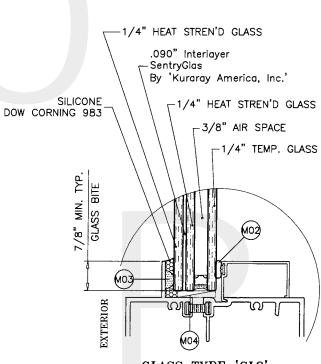
44-1/4	•	60.0	70.0	
	D.L.O. WIDTH	D W	.L.O. /IDTH	
D.L.O. HEIGHT	<i>Y</i> ₁	D.L.	10/h	
		D.L.O. HEIGHT	<u> </u>	

	GLASS LO	AD CAPA	CITY -	PSF		
			GLASS	TYPES		
NOMINA	L DIMS.	'G	L2'	'GL2R'		
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	04 1/0"	90.0	120.0	90.0	90.0	
44-1/4"	84-1/2"	90.0	120.0	90.0	90.0	
50-1/4"		90.0	120.0	90.0	90.0	
56-1/4"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	00 1/2"	90.0	120.0	90.0	90.0	
44-1/4"	90-1/2"	90.0	120.0	90.0	90.0	
50-1/4"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	93-1/2"	90.0	120.0	90.0	90.0	
44-1/4"	33 1/2	90.0	120.0	90.0	90.0	
50-1/4"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	96-1/2"	90.0	120.0	90.0	90.0	
44-1/4"	30 1/2	90.0	120.0	90.0	90.0	
50-1/4"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	102-1/2"	90.0	120.0	90.0	90.0	
44-1/4"		90.0	120.0	90.0	90.0	
49"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	105-1/2"	90.0	120.0	90.0	90.0	
44-1/4"		90.0	120.0	90.0	90.0	
48"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"		90.0	120.0	90.0	90.0	
38-1/4"	108-1/2"	90.0	120.0	90.0	90.0	
44-1/4"		90.0	120.0	90.0	90.0	
46"		90.0	120.0	90.0	90.0	
26-1/4"		90.0	120.0	90.0	90.0	
32-1/4"	114-1/2"	90.0	120.0	90.0	90.0	
38-1/4"	,	90.0	120.0	90.0	90.0	
44-1/4"		90.0	120.0	90.0	90.0	

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



GLASS TYPE 'GL1' 1-3/16" OVERALL INSUL. LAM. GLASS



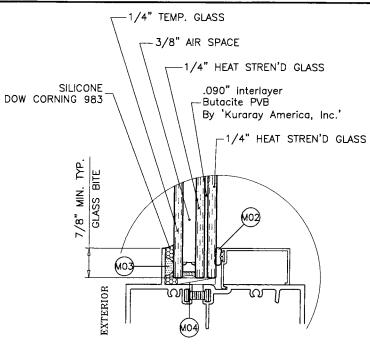
GLASS TYPE 'GL2' 1-3/16" OVERALL INSUL. LAM. GLASS

3/8" AIR SPACE CONSISTING OF:

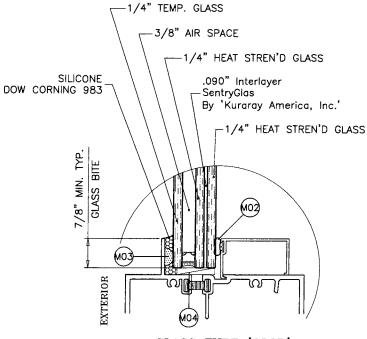
SPACER: 'HELIMA' LOW PROFILE ALUMINUM SPACER BY 'LINGERMANN GMBH' AROUND THE PERIMETER OF THE GLASS. PERIMETER SEALANT: SILICONE DOW CORNING 791

GE 2000

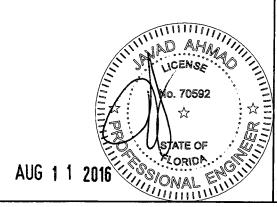
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS).



GLASS TYPE 'GL1R' 1-3/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL2R' 1-3/16" OVERALL INSUL. LAM. GLASS



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978 (C.A.N. 3 FAX. (305) 262-4 COMP-A

(L.M.I.)

ES-8000T ALUM WINDOW WALL SYSTEM WINDOWS, LLC N.W. 49 STREET FL. 33142 305) 638–5151 FAX. (**E.S.** 3550 | MIAMI, TEL. (30

(305)

description
REV. PER RER COMMENTS
REV. PER RER COMMENTS revisions: no date A 02.24.16 B 06.27.16

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drawing no. W14 - 38

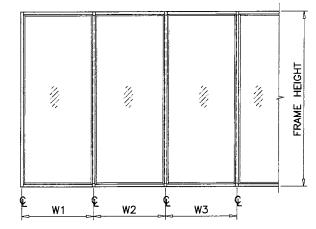
sheet 2 of 9

GLASS

	LOAD CAPAC JAMB/MULLI NTERMEDIATE	ON	
NOMINA	L DIMS.		MB LION
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
30"		90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"	96"	90.0	120.0
54"		90.0	120.0
60"		90.0	120.0
30"		90.0	120.0
36"		90.0	120.0
42"	08 1/0"	90.0	120.0
48"	98-1/2"	90.0	120.0
54"		90.0	120.0
60"		60.0	70.0
30"		90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
42	102"	90.0	120.0
1			120.0
54"		90.0	70.0
60"			
30"		90.0	120.0
36"		90.0	120.0
42"	108"	90.0	120.0
48"		90.0	120.0
54"		60.0	70.0
60"		60.0	70.0
30"		90.0	120.0
36"		90.0	120.0
42"	110-1/2"	90.0	120.0
48"		90.0	116.0
54"		60.0	70.0
60"		60.0	70.0
30"	:	90.0	120.0
36"		90.0	120.0
42"	114"	90.0	118.1
48"		90.0	105.1
54"		60.0	70.0
60"		60.0	70.0
30"		90.0	120.0
36"		90.0	115.9
42"	120"	90.0	100.7
48"		84.9	84.9
54"		60.0	70.0
57"		60.0	70.0
30"		60.0	70.0
36"		60.0	70.0
42"	126"	60.0	70.0
48"		60.0	70.0
54"		60.0	69.4
30"		60.0	70.0
36"		60.0	70.0
42"	132"	60.0	70.0
48"		60.0	66.4
52"		60.0	61.9

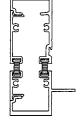
	DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS										
NOMINA	L DIMS.	JAMB MULLION									
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)								
30"		60.0	70.0								
36"		60.0	70.0								
42"	138"	60.0	65.4								
48"		57.9	57.9								
50"		55.8	55.8								
30"		60.0	70.0								
36"	144"	60.0	66.3								
42"	177	57.4	57.4								
48"		50.7	50.7								

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



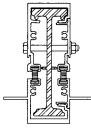
WIDTH (W) = W1AT FRAME JAMB

W2 + W3WIDTH (W) =AT FRAME MULLION



JAMB

Ix IN^4 Sx IN^3 6.8850 2.6400



MULLION

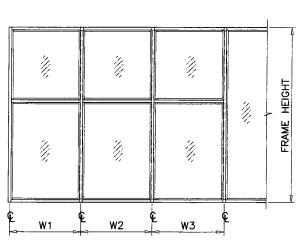
Ix IN⁴ Sx IN³ 11.3441 4.3497

W1111 11V1	EKMEDIATE .	TORIZON	ITALO
NOMINA	L DIMS.	4	MB LION
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
30"		90.0	120.0
36"	96"	90.0	120.0
42"	30	90.0	120.0
48"		90.0	120.0
30"		90.0	120.0
36"	98-1/2"	90.0	120.0
42"	30-1/2	90.0	120.0
48"		90.0	120.0
30"		90.0	120.0
36"	102"	90.0	120.0
42"	102	90.0	120.0
48"		90.0	120.0
30"		90.0	120.0
36"	108"	90.0	120.0
42"	,,,,	90.0	120.0
48"		90.0	115.3
30"		90.0	120.0
36"	110-1/2"	90.0	120.0
42"		90.0	120.0
48"		90.0	107.6
30"		90.0	120.0
36"	114"	90.0	120.0
42"	,,,	90.0	112.0
48"		90.0	98.0
30"		90.0	120.0
36"	120"	90.0	112.0
42"	120	90.0	96.0
48"		84.0	84.0
30"		60.0	70.0
36"	126"	60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
30"		60.0	70.0
36"	132"	60.0	70.0
42"		60.0	70.0
48"		60.0	63.1
30"		60.0	70.0
36"	138"	60.0	70.0
42"		60.0	63.1
48"		55.3	55.3
30"	ļ	60.0	70.0
36"	144"	60.0	64.8
42"		55.6	55.6
	1	400	4001

DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITH INTERMEDIATE HORIZONTALS

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

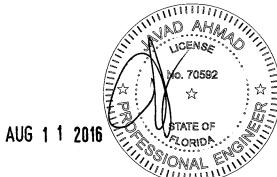
48.6 48.6



WIDTH (W) = W1 AT FRAME JAMB

WIDTH (W) =AT FRAME MULLION

MULLIONS



جَ 동 왕

revisions: no date A 02.24.16 B 06.27.16

drawing no. W14 - 38

 AL-FAROOQ CORPORATION

 ENGINEERS & PRODUCT DEVELOPMENT

 9360 SUNSET DRIVE, SUITE 220

 MIAMI, FLORIDA 33173
 (C.A.N. 3638)

 TEL. (305) 264-8100
 FAX. (305) 262-6978

ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.))

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142

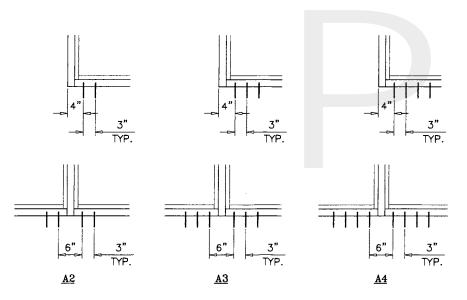
TEL. (305) 638-5151 FAX. (305) 638-5158

sheet 3 of 9

	Al			& INT.		PSF			
	<u> </u>			ANG	CHORS	TYPE 'A	۸'		
NOMIN	AL DIMS.	1/4"	MAX.	SHIM	3/8	MAX.	SHIM	1/2"	SHIM
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A2	А3	A4	A3	A4
30"		120.0	120.0	120.0	99.0	120.0	120.0	115.2	120.0
36"	İ	107.1	120.0	120.0	82.5	120.0	120.0	96.0	120.0
42"	70"	91.8	120.0	120.0	70.7	106.0	120.0	82.3	109.7
48"	78"	80.3	120.0	120.0	61.8	92.8	120.0	72.0	96.0
54"		71.4	107.1	120.0	55.0	82.5	109.9	64.0	85.3
60"		64.2	96.4	120.0	49.5	74.2	99.0	57.6	76.8
30"		119.3	120.0	120.0	91.9	120.0	120.0	107.0	120.0
36"		99.4	120.0	120.0	76.6	114.9	120.0	89.1	118.9
42"	84"	85.2	120.0	120.0	65.6	98.4	120.0	76.4	101.9
48"	04	74.6	111.9	120.0	57.4	86.1	114.9	66.9	89.1
54"		66.3	99.4	120.0	51.0	76.6	102.1	59.4	79.2
60"		59.7	89.5	119.3	45.9	68.9	91.9	53.5	71.3
30"		111.4	120.0	120.0	85.8	120.0	120.0	99.8	120.0
36"		92.8	120.0	120.0	71.5	107.2	120.0	83.2	110.9
42"	90"	79.5	119.3	120.0	61.3	91.9	120.0	71.3	95.1
48"	90	69.6	104.4	120.0	53.6	80.4	107.2	62.4	83.2
54"		61.9	92.8	120.0	47.6	71.5	95.3	55.5	74.0
60"		55.7	83.5	111.4	42.9	64.3	85.8	49.9	66.6
30"		104.4	120.0	120.0	80.4	120.0	120.0	93.6	120.0
36"		87.0	120.0	120.0	67.0	100.5	120.0	78.0	104.0
42"	oc"	74.6	111.9	120.0	57. 4	86.1	114.9	66.9	89.1
48"	96"	65.3	97.9	120.0	50.3	75.4	100.5	58.5	78.0
54"		58.0	87.0	116.0	44.7	67.0	89.3	52.0	69.3
60"		52.2	78.3	104.4	40.2	60.3	80.4	46.8	62.4
30"		98.3	120.0	120.0	75.7	113.5	120.0	88.1	117.5
36"		81.9	120.0	120.0	63.1	94.6	120.0	73.4	97.9
42"	102"	70.2	105.3	120.0	54.1	81.1	108.1	62.9	83.9
48"	102	61.4	92.1	120.0	47.3	70.9	94.6	55.1	73.4
54"		54.6	81.9	109.2	42.0	63.1	84.1	48.9	65.3
60"		49.1	70.0	70.0	37.8	56.8	70.0	44.0	58.7
30"		92.8	120.0	120.0	71.5	107.2	120.0	83.2	110.9
36"		77.3	116.0	120.0	59.6	89.3	119.1	69.3	92.4
42"	108"	66.3	99.4	120.0	51.0	76.6	102.1	59.4	79.2
48"	100	58.0	87.0	116.0	44.7	67.0	89.3	52.0	69.3
54"		51 <i>.</i> 6	77.3	103.1	39.7	59.6	79.4	46.2	61.6
60"		46.4	69.6	70.0	35.7	53,6	70.0	41.6	55.5
30"		87.9	120.0	120.0	67.7	101.6	120.0	78.8	105.1
36"		73.3	109.9	120.0	56.4	84.6	112.8	65.7	87.6
42"	114"	62.8	94.2	120.0	48.4	72.5	96.7	56.3	75.1
48"	'''	54.9	82.4	109.9	42.3	63.5	84.6	49.3	65.7
54"		48.8	70.0	70.0	37.6	56.4	70.0	43.8	58.4
60"		44.0	65.9	70.0	33.9	50.8	67.7	39.4	52.5
30"		83.5	120.0	120.0	64.3	96.5	120.0	74.9	99.8
36"		69.6	104.4	120.0	53.6	80.4	107.2	62.4	83.2
42"	120"	59.7	89.5	119.3	45.9	68.9	91.9	53.5	71.3
48"		52.2	78.3	104.4	40.2	60.3	80.4	46.8	62.4
54"		46.4	69.6	70.0	35.7	53.6	70.0	41.6	55.5
30"		70.0	70.0	70.0	61.3	70.0	70.0	70.0	70.0
36"		66.3	70.0	70.0	51.0	70.0	70.0	59.4	70.0
42"	126"	56.8	70.0	70.0	43.8	65.6	70.0	50.9	67.9
48"		49.7	70.0	70.0	38.3	57.4	70.0	44.6	59.4
54"		44.2	66.3	70.0	34.0	51.0	68.1	39.6	52.8

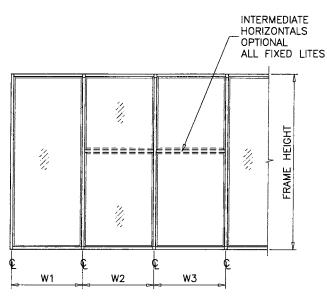
	Al			CAPAC & INT.(PSF			
				ANO	CHORS '	TYPE 'A	,		
NOMIN	NOMINAL DIMS.		MAX.	SHIM	3/8"	MAX.	SHIM	1/2"	SHIM
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A2	А3	A4	A3	A4
30"		70.0	70.0	70.0	58.5	70.0	70.0	68.1	70.0
36"	132"	63.3	70.0	70.0	48.7	70.0	70.0	56.7	70.0
42"	132	54.2	70.0	70.0	41.8	62.6	70.0	48.6	64.8
48"		47.5	70.0	70.0	36.5	54.8	70.0	42.5	56.7
30"		70.0	70.0	70.0	55.9	70.0	70.0	65.1	70.0
36"	138"	60.5	70.0	70.0	46.6	69.9	70.0	54.3	70.0
42"	130	51.9	70.0	70.0	40.0	59.9	70.0	46.5	62.0
48"		45.4	68.1	70.0	35.0	52.4	69.9	40.7	54.3
30"		69.6	70.0	70.0	53.6	70.0	70.0	62.4	70.0
36"	144"	58.0	70.0	70.0	44.7	67.0	70.0	52.0	69.3
42"	177	49.7	70.0	70.0	38.3	57.4	70.0	44.6	59.4
48"		43.5	65.3	70.0	33.5	50.3	67.0	39.0	52.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 7 FOR DESCRIPTION

 $\mathbf{A2}$ = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION $\mathbf{A3}$ = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION $\mathbf{A4}$ = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION



WIDTH (W) = W1AT FRAME JAMB

W2 + W3 WIDTH (W) =AT FRAME MULLION

ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158 by description
REV. PER RER COMMENTS
REV. PER RER COMMENTS

AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 (C.A.N. 3538) TEL. (305) 264-8100 FAX. (305) 262-6978 COMP-ANL\W14-

AUG 1 1 2016

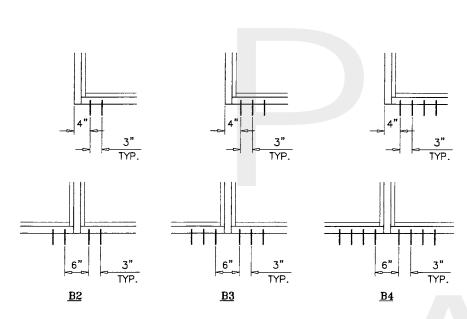
revisions:
no date
ho date
A 02.24.16
B 06.27.16 dr. by: HAMID scale: drawing no. W14 - 38sheet 4 of 9

ANCHORS

			LOAD EXT.(+)			I DF				
					HORS					
NOMINA	L DIMS.	1/4	MAX.	SHIM	3/8'	MAX.	SHIM	1/	/2" SHI	M
	FRAME HEIGHT	B2	В3	B4	B2	В3	B4	B2	В3	B4
30"		120.0	120.0	120.0	120.0	120.0	120.0	101.4	120.0	120.0
36"		120.0	120.0	120.0	107.1	120.0	120.0	84.5	120.0	120.0
42"	78"	119.9	120.0	120.0	91.8	120.0	120.0	72.4	108.7	120.0
48"	, 5	104.9	120.0	120.0	80.3	120.0	120.0	63.4	95.1	120.0
54"		93.3	120.0	120.0	71.4	107.1	120.0	56.3	84.5	112.7
60"		83.9	120.0	120.0	64.2	96.4	120.0	50.7	76.1	101.4
30"		120.0	120.0	120.0	119.3	120.0	120.0	94.2	120.0	120.0
36"		120.0	120.0	120.0	99.4	120.0	120.0	78.5	117.7	120.0
42"	84"	111.3	120.0	120.0	85.2	120.0	120.0	67.3	100.9	120.0
48"	<u> </u>	97.4	120.0	120.0	74.6	111.9	120.0	58.9	88.3	117.7
54"		86.6	120.0	120.0	66.3	99.4	120.0	52.3	78.5	104.6
60"		77.9	116.9	120.0	59.7	89.5	119.3	47.1	70.6	94.2
30"		120.0	120.0	120.0	111.4	120.0	120.0	87.9	120.0	120.0
36"		120.0	120.0	120.0	92.8	120.0	120.0	73.2	109.9	120.0
42"	90"	103.9	120.0	120.0	79.5	119.3	120.0	62.8	94.2	120.0
48"	30	90.9	120.0	120.0	69.6	104.4	120.0	54.9	82.4	109.9
54"		80.8	120.0	120.0	61.9	92.8	120.0	48.8	73.2	97.7
60"		72.7	109.1	120.0	55.7	83.5	111.4	43.9	65.9	87.9
30"	96"	120.0	120.0	120.0	104.4	120.0	120.0	82.4	120.0	120.0
36"		113.7	120.0	120.0	87.0	120.0	120.0	68.7	103.0	120.0
42"		97.4	120.0	120.0	74.6	111.9	120.0	58.9	88.3	117.7
48"		85.3	120.0	120.0	65.3	97.9	120.0	51.5	77.3	103.0
54"		75.8	113.7	120.0	58.0	87.0	116.0	45.8	68.7	91.6
60"		68.2	102.3	120.0	52.2	78.3	104.4	41.2	61.8	82.4
30"		120.0	120.0	120.0	98.3	120.0	120.0	77.6	116.3	120.0
36"		107.0	120.0	120.0	81.9	120.0	120.0	64.6	96.9	120.0
42"	102"	91.7	120.0	120.0	70.2	105.3	120.0	55.4	83.1	110.8
48"	102	80.2	120.0	120.0	61.4	92.1	120.0	48.5	72.7	96.9
54"		71.3	107.0	120.0	54.6	81.9	109.2	43.1	64.6	86.2
60"		64.2	70.0	70.0	49.1	70.0	70.0	38.8	58.2	70.0
30"		120.0	120.0	120.0	92.8	120.0	120.0	73.2	109.9	120.0
36"		101.0	120.0	120.0	77.3	116.0	120.0	61.0	91.6	120.0
42"	108"	86.6	120.0	120.0	66.3	99.4	120.0	52.3	78.5	104.6
48"	100	75.8	113.7	120.0	58.0	87.0	116.0	45.8	68.7	91.6
54"		67.4	101.0	120.0	51.6	77.3	103.1	40.7	61.0	81.4
60"		60.6	70.0	70.0	46.4	69.6	70.0	36.6	54.9	70.0
30"		114.9	120.0	120.0	87.9	120.0	120.0	69.4	104.1	120.0
36"		95.7	120.0	120.0	73.3	109.9	120.0	57.8	86.7	115.6
42"	114"	82.0	120.0	120.0	62.8	94.2	120.0	49.6	74.3	99.1
48"	'''	71.8	107.7	120.0	54.9	82.4	109.9	43.4	65.1	86.7
54"		63.8	70.0	70.0	48.8	70.0	70.0	38.5	57.8	70.0
60"		57.4	70.0	70.0	44.0	65.9	70.0	34.7	52.0	69.4
30"		109.1	120.0	120.0	83.5	120.0	120.0	65.9	98.9	120.0
36"		90.9	120.0	120.0	69.6	104.4	120.0	54.9	82.4	109.9
42"	120"	77.9	116.9	120.0	59.7	89.5	119.3	47.1	70.6	94.2
48"		68.2	102.3	120.0	52.2	78.3	104.4	41.2	61.8	82.4
54"		60.6	70.0	70.0	46.4	69.6	70.0	36.6	54.9	70.0
30"		70.0	70.0	70.0	70.0	70.0	70.0	62.8	70.0	70.0
36"		70.0	70.0	70.0	66.3	70.0	70.0	52.3	70.0	70.0
42"	126"	70.0	70.0	70.0	56.8	70.0	70.0	44.8	67.3	70.0
48"		65.0	70.0	70.0	49.7	70.0	70.0	39.2	58.9	70.0
54"		57.7	70.0	70.0	44.2	66.3	70.0	34.9	52.3	69.8

.	ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)											
		3'										
NOMIN	AL DIMS.	1/4"	MAX.	SHIM	3/8"	MAX.	SHIM	1/	/2" SHI	M		
WIDTH (W)	FRAME HEIGHT	B2	В3	B4	B2	В3	B4	B2	В3	B4		
30"		70.0	70.0	70.0	70.0	70.0	70.0	59.9	70.0	70.0		
36"	132"	70.0	70.0	70.0	63.3	70.0	70.0	49.9	70.0	70.0		
42"	132	70.0	70.0	70.0	54.2	70.0	70.0	42.8	64.2	70.0		
48"		62.0	70.0	70.0	47.5	70.0	70.0	37.5	56.2	70.0		
30"		70.0	70.0	70.0	70.0	70.0	70.0	57.3	70.0	70.0		
36"	138"	70.0	70.0	70.0	60.5	70.0	70.0	47.8	70.0	70.0		
42"	136	67.8	70.0	70.0	51.9	70.0	70.0	40.9	61.4	70.0		
48"		59.3	70.0	70.0	45.4	68.1	70.0	35.8	53.7	70.0		
30"		70.0	70.0	70.0	69.6	70.0	70.0	54.9	70.0	70.0		
36"	144"	70.0	70.0	70.0	58.0	70.0	70.0	45.8	68.7	70.0		
42"	144	65.0	70.0	70.0	49.7	70.0	70.0	39.2	58.9	70.0		
48"		56.8	70.0	70.0	43.5	65.3	70.0	34.3	51.5	68.7		

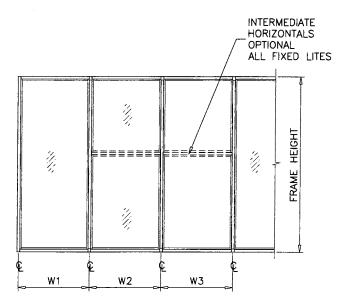
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 7 FOR DESCRIPTION

B2=(2) anchors type 'B' at each side of Jamb and mullion B3=(3) anchors type 'B' at each side of Jamb and mullion B4=(4) anchors type 'B' at each side of Jamb and Mullion

ANCHORS



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978

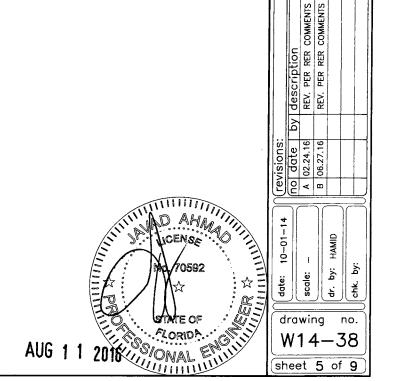
ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

sheet 5 of 9

WIDTH (W) = W1AT FRAME JAMB

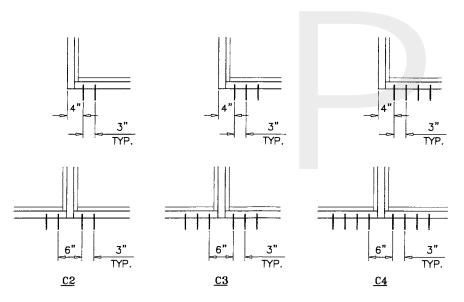
W2 + W3WIDTH (W) =AT FRAME MULLION



		1	L > 1 · (+)	& INT.(mype 4	1 ,		
3103577	AT DIMO	1 /43	MAY			TYPE 'C		1/2"	cum
	AL DIMS.		MAX.			T		 	
WIDTH (W)	FRAME HEIGHT	C2	C3	C4	C2	C3	C4	C3	C4
30"		120.0	120.0	120.0	91.6	120.0	120.0	108.6	120.0
36"		120.0	120.0	120.0	76.3	114.5	120.0	90.5	120.0
42"	78"	120.0	120.0	120.0	65.4	98.1	120.0	77.5	103.4
48"		120.0	120.0	120.0	57.2	85.8	114.5	67.8	90.5
54"		106.9	120.0	120.0	50.9	76.3	101.7	60.3	80.4
60"		96.2	120.0	120.0	45.8	68.7	91.6	54.3	72.4
30"		120.0	120.0	120.0	85.0	120.0	120.0	100.8	120.0
36"		120.0	120.0	120.0	70.9	106.3	120.0	84.0	112.0
42"	84"	120.0	120.0	120.0	60.7	91.1	120.0	72.0	96.0
48"	_	111.7	120.0	120.0	53.1	79.7	106.3	63.0	84.0
54"		99.3	120.0	120.0	47.2	70.9	94.5	56.0	74.7
60"		89.4	120.0	120.0	42.5	63.8	85.0	50.4	67.2
30"		120.0	120.0	120.0	79.4	119.0	120.0	94.1	120.0
36"		120.0	120.0	120.0	66.1	99.2	120.0	78.4	104.5
42"	90"	119.2	120.0	120.0	56.7	85.0	113.4	67.2	89.6
48"	30	104.3	120.0	120.0	49.6	74.4	99.2	58.8	78.4
54"		92.7	120.0	120.0	44.1	66.1	88.2	52.3	69.7
60"		83.4	120.0	120.0	39.7	59.5	79.4	47.0	62.7
30"		120.0	120.0	120.0	74.4	111.6	120.0	88.2	117.6
36"		120.0	120.0	120.0	62.0	93.0	120.0	73.5	98.0
42"	0.0"	111.7	120.0	120.0	53.1	79.7	106.3	63.0	84.0
48"	96"	97.8	120.0	120.0	46.5	69.8	93.0	55.1	73.5
54"		86.9	120.0	120.0	41.3	62.0	82.7	49.0	65.3
60"		78.2	117.3	120.0	37.2	55.8	74.4	44.1	58.8
30"		120.0	120.0	120.0	70.0	105.0	120.0	83.0	110.7
36"		120.0	120.0	120.0	58.4	87.5	116.7	69.2	92.2
42"		105.1	120.0	120.0	50.0	75.0	100.0	59.3	79.1
48"	102"	92.0	120.0	120.0	43.8	65.6	87.5	51.9	69.2
54"		81.8	120.0	120.0	38.9	58.4	77.8	46.1	61.5
60"		70.0	70.0	70.0	35.0	52.5	70.0	41.5	55.3
30"		120.0	120.0	120.0	66.1	99.2	120.0	78.4	104.5
36"		115.9	120.0	120.0	55.1	82.7	110.2	65.3	87.1
42"		99.3	120.0	120.0	47.2	70.9	94.5	56.0	74.7
48"	108"	86.9	120.0	120.0	41.3	62.0	82.7	49.0	65.3
54"		77.2	115.9	120.0	36.7	55.1	73.5	43.6	58.1
60"		69.5	70.0	70.0	33.1	49.6	66.1	39.2	52.3
30"		120.0	120.0	120.0	62.7	94.0	120.0	74.3	99.0
36"		109.8	120.0	120.0	52.2	78.3	104.4	61.9	82.5
42"		94.1	120.0	120.0	44.8	67.1	89.5	53.1	70.7
42 48"	114"	82.3	120.0	120.0	39.2	58.7	78.3	46.4	61.9
46 54"		70.0	70.0	70.0	34.8	52.2	69.6	41.3	55.0
		65.9	70.0	70.0	31.3	47.0	62.7	37.1	49.5
60"		120.0	120.0	120.0	59.5	89.3	119.0	70.6	94.1
30"	-						99.2	-	
36"	450"	104.3	120.0	120.0	49.6	74.4		58.8	78.4
42"	120"	89.4	120.0	120.0	42.5	63.8	85.0	50.4	67.2
48"		78.2	117.3	120.0	37.2	55.8	74.4	44.1	58.8
54"		69.5	70.0	70.0	33.1	49.6	66.1	39.2	52.3
30"		70.0	70.0	70.0	56.7	70.0	70.0	67.2	70.0
36"		70.0	70.0	70.0	47.2	70.0	70.0	56.0	70.0
42"	126"	70.0	70.0	70.0	40.5	60.7	70.0	48.0	64.0
48"		70.0	70.0	70.0	35.4	53.1	70.0	42.0	56.0
54"		66.2	70.0	70.0	31.5	47.2	63.0	37.3	49.8

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
		ANCHORS TYPE 'C'							
NOMINAL DIMS.		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	C2	СЗ	C4	C2	СЗ	C4	СЗ	C4
30"	132"	70.0	70.0	70.0	54.1	70.0	70.0	64.1	70.0
36"		70.0	70.0	70.0	45.1	67.6	70.0	53.5	70.0
42"		70.0	70.0	70.0	38.6	58.0	70.0	45.8	61.1
48"		70.0	70.0	70.0	33.8	50.7	67.6	40.1	53.5
30"	138"	70.0	70.0	70.0	51.8	70.0	70.0	61.4	70.0
36"		70.0	70.0	70.0	43.1	64.7	70.0	51.1	68.2
42"		70.0	70.0	70.0	37.0	55.5	70.0	43.8	58.4
48"		68.0	70.0	70.0	32.3	48.5	64.7	38.3	51.1
30"	144"	70.0	70.0	70.0	49.6	70.0	70.0	58.8	70.0
36"		70.0	70.0	70.0	41.3	62.0	70.0	49.0	65.3
42"		70.0	70.0	70.0	35.4	53.1	70.0	42.0	56.0
48"		65.2	70.0	70.0	31.0	46.5	62.0	36.8	49.0

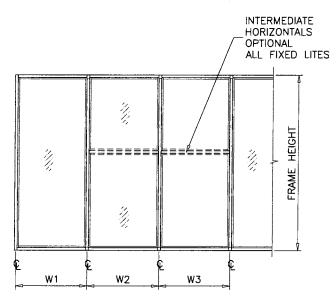
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 7 FOR DESCRIPTION

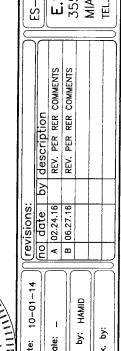
C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

ANCHORS



WIDTH (W) = W1 AT FRAME JAMB

W2 + W3 WIDTH (W) = AT FRAME MULLION



AUG 1 1 2016 ONAL ENTITIONAL

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W14

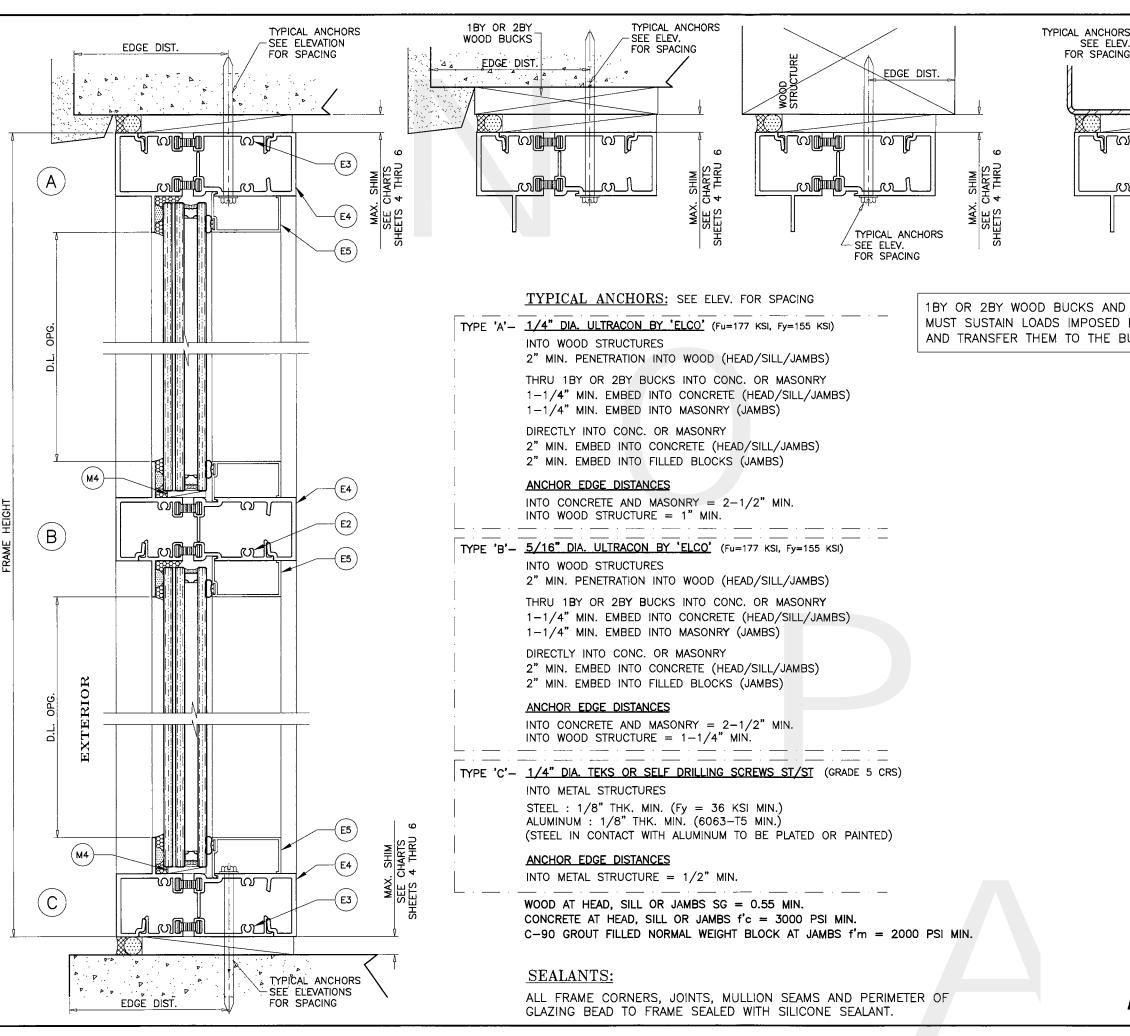
ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

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drawing no. W14 - 38

sheet 6 of 9



1BY OR 2BY WOOD BUCKS AND METAL STRUCTURE NOT BY E.S. WDW. MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

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SEE ELEV.

FOR SPACING

_METAL STRUCTURES

EDGE \ DIST.

 AL-FAROOQ CORPORATION

 ENGINEERS & PRODUCT DEVELOPMENT

 9360 SUNSET DRIVE, SUITE 220

 MIAMI, FLORIDA 33173
 (C.A.N. 3638)

 TEL. (305) 264-8100
 FAX. (305) 262-6978

 (L.M.I.)

> SYSTEM WALL WINDOWS, LLC N.W. 49 STREET FL. 33142 (55) 638–5151 FAX E.S. 3550 MIAMI, TEL. (30

description
REV. PER RER ON CHANGE THIS ۵

by: Ą.

drawing W14 - 38

sheet 7 of 9

